

**REMARKS**

Claims 1-20 are pending in the above-referenced patent application (this "Application").

Claims 1-20 have been rejected in this Application.

Claims 8, 17 and 18 have been amended in this Application.

Claims 1-20 remain in this Application.

Reconsideration of the claims is respectfully requested. The claims are listed in APPENDIX "A" in their current form, for the Examiner's easy reference. The Applicants believe that this Application is in condition for appeal.

**35 U.S.C. § 103(a) -- Obviousness**

In the Office Action, the Examiner rejected Claims 1 and 3-7 under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,085,085 issued to Blakeney, II, et al. ("*Blakeney*"), in view of United States Patent No. 6,021,328 issued to Curtis, et al. ("*Curtis*") and United States Patent No. 5,119,502 issued to Kallin, et al. ("*Kallin*") in view of United States Patent No. 5,548,818 issued to Sawyer ("*Sawyer*"). The Examiner also rejected Claims 2 and 8-20 35 U.S.C. §103(a) as being unpatentable over various combinations of *Blakeney*, *Curtis*, *Kallin*, and *Sawyer* and also United States Patent No. 5,999,816 issued to Tiedemann, Jr., et al. ("*Tiedemann*"). These rejections are respectfully traversed.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262,

23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure. MPEP § 2142.

As noted in the Applicants' prior response, *Blakeney* teaches a conventional prior art wireless station that selects a wireless system in the geographical area of the subscriber station based on a table or list of preferred systems stored in the subscriber station. *Curtis* teaches monitoring the traffic channel of a call and determining when to hand-off the call from one network to another network based upon traffic channel FER or gain.

The Office Action argues that *Kallin* "discloses that a mobile station will receive a plurality of messages (pages) over a control channel (paging channel) when it is in an idle state, *i.e.*, when no active call is taking place. *Kallin* also discloses that the quality of the control channel can be monitored so that when the quality is reduced, the mobile station may be handed off to a base station with a stronger signal, in order to reduce the probability of missing incoming calls. *See*, col. 1, line 62 through col. 2, line 46." Office Action, pp 3-4. The Applicants respectfully submit that the Office Action mischaracterizes *Kallin*. *Kallin*, et al teach that:

A mobile station in an idle state, *i.e.*, with no active call taking place, will listen for pages and other information on the paging channel having the strongest signal strength. The mobile station will stay tuned to the paging channel until it either initiates an access, *e.g.* a registration, call access or paging response, or performs a rescan of all the paging channels within its range to determine if a new paging channel has a stronger signal strength than the current paging channel. Col. 1, line 62 - Col. 2, line 2.

Accordingly, *Kallin* simply teaches that an idle mobile station will tune to the paging channel having the strongest signal strength - even though (1) the radio system associated with this particular paging channel is not the preferred radio system, or (2) another paging channel having less signal strength may still provide adequate signal strength. In contrast, the Applicants' invention initially accesses a

preferred radio system and switches to a second radio system when the control channel signal is substantially reduced in quality (*Kallin* on the other hand automatically switches when a paging signal from a different base is received that has a higher signal strength than the current paging channel).

Moreover, *Kallin* only applies to idle subscriber stations. The Applicants' invention provides the additional benefits of switching radio systems (in response to an error rate associated with a control channel) when the subscriber is in an idle state or during an actual call. Importantly, one disadvantage of *Kallin* is the provision of an additional rescan message (at predetermined intervals) needed to be transmitted from the base station to all the mobile stations. *See*, Abstract. In contrast, the Applicants' invention monitors the error rates of the control channel messages (messages transmitted in the normal course of operation) - and does not require an additional, periodic rescan message sent by the base station to initiate hand-off. *Kallin* chooses the signal having the highest strength regardless of the quality of the current signal (*i.e.*, not when the quality of the current signal is "reduced"), and further, choose this signal only when a rescan is performed (not when the error rate exceeds a threshold value).

In sum, *Kallin* does not disclose, teach or suggest the Applicants' invention of receiving messages over a control channel, determining the error rate, comparing the error rate to a predetermined threshold, and if the error rate exceeds the threshold value, access a less preferred second radio system. *See*, the Applicants' Claim 1.

Independent Claims 8 and 17 have been amended to recite a “control channel”, and are analogous to independent Claim 1. Therefore, for the same reasons set forth above, independent Claims 8 and 17, and all dependent claims, are non-obvious over the cited art.

Accordingly, the Applicants respectfully request withdrawal of the § 103 rejection of Claims 1-20.

As a result of the foregoing, the Applicants assert that the remaining Claims in the Application are in condition for allowance, and respectfully request allowance of such Claims.

SUMMARY


For the reasons given above, the Applicants respectfully request reconsideration and allowance of pending claims and that this Application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this Application, the Applicants respectfully invite the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Davis Munck Deposit Account No. 50-0208.

Respectfully submitted,

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**AMENDMENTS WITH MARKINGS TO SHOW CHANGES MADE**

1. (Unchanged) A method within a multi-mode mobile station for communicating over a particular radio system wherein said multi-mode mobile station is capable of selectively communicating over a first radio system and a second radio system and wherein said first radio system is preferred over said second radio system, said method comprising the steps of:

determining whether said preferred first radio system is available to provide mobile service;  
accessing said preferred first radio system;  
receiving a plurality of messages over a control channel associated with said preferred first radio system;  
determining the error rate associated with said plurality of messages;  
comparing said determined error rate with a predetermined threshold value; and  
if said determined error rate exceeds said predetermined threshold value, then  
accessing said less preferred second radio system.

2. (Unchanged) The method of claim 1 wherein said step of determining whether said preferred first radio system is available further comprises the step of determining whether an acceptable number of said messages are received within a predetermined time period.

3. (Unchanged) The method of claim 1 wherein said step of determining whether said preferred first radio system is available further comprises the step of determining whether a pilot signal from said preferred first radio system is detectable.

4. (Unchanged) The method of claim 1 wherein said messages are page channel (PCH) messages.

5. (Unchanged) The method of claim 1 wherein said step of determining said error rate comprises the step of determining a Frame Error Rate (FER) associated with said plurality of messages.

6. (Unchanged) The method of claim 5 wherein said step of determining said FER is performed while said multi-mode mobile station is in an Idle state.

7. (Unchanged) The method of claim 5 wherein said step of accessing said less preferred second radio system is performed after said determined FER exceeds said predetermined threshold value over a plurality of consecutive time periods.

8. (Amended) A method of selecting a radio system within a multi-mode mobile station wherein said multi-mode mobile station is capable of selectively communicating over a first radio system and a second radio system, said method comprising the steps of:

accessing said first radio system by said multi-mode mobile station;  
periodically receiving a message signal over a [forward] control channel associated with said first radio system;  
determining the number of message signals received within a first predetermined time period;  
determining the error rate associated with said message signals received within a second predetermined time period; and,  
accessing said second radio system in response to a determination that the number of message signals received within said first predetermined time period meets a first threshold value, but that said error rate associated with said message signals exceeds a second threshold value.

9. (Unchanged) The method of claim 8 wherein said step of receiving said message signal comprises the step of receiving a page message over a page channel (PCH).

10. (Unchanged) The method of claim 8 wherein said step of determining said error rate comprises the step of determining a Frame Error Rate (FER) associated with said received message signals.

11. (Unchanged) The method of claim 8 wherein said first radio system is preferred over said second radio system within said multi-mode mobile station.

12. (Unchanged) The method of claim 11 wherein said first system comprises a Code Division Multiple Access (CDMA) system.

13. (Unchanged) The method of claim 11 wherein said second system comprises a Advanced Mobile Phone System (AMPS).

14. (Unchanged) The method of claim 8 wherein said step of determining said error rate is performed while said multi-mode mobile station is in an Idle state.

15. (Unchanged) The method of claim 14 wherein said step of accessing said second radio system is performed after said determined error rate exceeds said predetermined threshold value over a plurality of time periods.

16. (Unchanged) The method of claim 8 wherein said second threshold value is determined by calculating a signal-to-noise ratio ( $E_c/I_o$ ) associated with a pilot channel.



17. (Amended) A multi-mode mobile station for selectively communication over a first radio system and a second radio system wherein said first radio system is preferred over said second radio system, comprising:

- means for determining whether said first radio system is available to provide service;
- means for accessing said first radio system;
- means for receiving messages over a [forward] control channel associated with said first radio system;
- means for determining an error rate associated with said received messages;
- means for comparing said determined error rate against a particular threshold value; and
- means for accessing said second radio system in response to a determination that said determined error rate exceeds said particular threshold value.

18. (Amended) The multi-mode mobile station of claim 17 wherein said messages received over said [forward] control channel comprise page messages over a page channel (PCH).

19. (Unchanged) The multi-mode mobile station of claim 17 wherein said means for determining said error rate associated with said received messages comprises means for determining a Frame Error Rate (FER) associated with said messages.

20. (Unchanged) The multi-mode mobile station of claim 17 wherein said threshold value is determined by calculating a signal-to-noise ratio ( $E_c/I_o$ ) associated with a pilot channel.